



C3E Challenge Problem

27-28 October 2021





Challenge Problem Process

- C3E 2020 workshop had follow-up challenge problem
- Funded by NSF as a 2-year grant
- Offered honorariums of \$2500-\$10K for research on relevant topics related to C3E 2020 and 2019
- Did a solicitation to 145+ recent participants of C3E
- Received 11 proposals
- Process:
 - Assembled a review panel for the proposals
 - C. Willard, B. Martin, P. Muio, E. Rhyne, C. Heitzenrate, D. Ragsdale, D. Nebesh, C. Paul
 - Included two SCORE members on review team
 - Funded researchers with \$75K through the NSF grant
 - Outcomes: poster, video participation at C3E, paper for a technical journal



2021 Challenge Problem Options

- Economics of Security
- Continuous Assurance
- Application of Cognitive Security and HMT to this year's theme
- Open Option — ideas from this year's themes



Challenge Problem Research Topics

- Economy of Security by Obscurity Deception Posturing (Povlovic)
- Network Security Investment Games (Burke)
- AI ML in Autonomic and Automated Security (Laszka)
- Observer Perception-Reflection-Recording Dynamics (Mogire-Carroll)
- Personalized Adaptive Anti-Phishing (Cranford)
- Continuous Learning of System Security (Chin)
- Overcoming Markets for Lemons (Mallery)
- Research Challenges in Continuous Assurance (Mitra)
- Economics of Continuous Assurance in Cybersecurity (Oriot)
- Synthesis of Run-time Enforcers (Topcu)



Poster Session in Gather.Town

- **Participate** in the Interactive Poster Session in Gather.Town (URL listed in Chat and C3E Invite Email)
 - **View** the Short video presentation that highlights the research results
 - **Examine** the Poster describing the work
 - **Interact** with the researchers for live Q&A
- Next Step: Review Challenge Problem for 2021-22